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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/662,683 | 09/15/2003 | Melvin E. Wolfe JR. | 28076/SV1094 | 9788 |
| 4743 | 7590 | 10/26/2005 | EXAMINER | |
| MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606 | | | PHAN, THIEM D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3729 | |

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/662,683 | WOLFE ET AL. | |
| | Examiner | Art Unit | |
| | Tim Phan | 3729 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 September 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 11-19 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 11-19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

1. The amendment filed on 09/07/05 has been fully considered and made of record.

Response to Arguments

2. Applicants' arguments, see Amendment In Response to Non-Final Office Action, filed on 9/07/05, with respect to the rejections of claims 11 and 12 under 35USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Claims 11-19.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al (US 6,737,770 B2) in view of Matsuoka et al (US 5,880,666) or vice versa.

As applied to claim 11, Sunaga et al teach a process of making brushless motor, comprising:

- winding a first magnet wire of a coil (Fig. 1, 7) connecting to a first lug or terminal (Fig. 1, 48, col. 4, lines 57-59) in a winding board (Fig. 1, 40) and a first protrusion (Fig. 1, 5) in a stator (Fig. 1, 2), the winding board (Fig. 1, 40) being disposed on the stator (Fig. 1, 2) and including a switch (Fig. 1, 41) having at least an internal terminal, and a fuse (Fig. 7A, 60) having an input terminal and an exit terminal;
- terminating the first magnet wire connection at the switch (Fig. 1, 41; col. 4, lines 26 & 27) for changing the current direction to the coils.

Matsuoka et al teach a process of mounting fuse with press-connecting terminals and wire cutter at any intermediate portion of the circuit (Col. 1, line 41), comprising:

- laying a first wire (Fig. 3, 16) connection to an exit terminal and an input terminal (Fig. 3, 4 & 50 on a fuse (Fig. 3, 10);
- severing the first wire (Fig. 4, 16) between the input terminal and the exit terminal on the fuse.

It would have been obvious to one of ordinary skill in the art to combine the two teachings by applying the process of wire connection with fuse, as taught by Matsuoka et al, to the process of making brushless motor by Sunaga et al, in order to mount any or further fuse protection at any intermediate portion of the circuit.

As applied to claim 12, Sunaga et al and Matsuoka et al teach a process of connecting wire to fuse, which reads on applicants' claimed invention, including the clipping of a fuse to a board by Sunaga et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a clipping step to any loose wire for better connection.

As applied to claim 13, Sunaga et al teach several switches (Fig. 1 & 6, 41) mounted on the printed wiring board (Fig. 1, 40) for changing directions of the drive current applied to the exciting coil (Fig. 1, 7, col. 4, lines 26-29).

I would be obvious to one of ordinary skill in the art at the time the invention was made to realize that a switch that changes current drive directions, even for single pole switch, must have internal and external terminals with blocks, which connect to the magnet coil.

As applied to claim 16, Sunaga et al teach the winding the first magnet wire of the coil (Fig. 1, left 7) about the first lug or terminal (Fig. 1, 41; col. 4, lines 57-59) in the winding board and the first protrusion or core (Fig. 1, left 5) in the stator (Fig. 1, 2) to form one of the two poles (Col. 3, lines 6-8).

As applied to claim 17, Sunaga et al teach the winding the second magnet wire of the coil (Fig. 1, right 7) about the second lug or terminal (Fig. 1, 41; col. 4, lines 57-59) in the winding board and the second protrusion or core (Fig. 1, right 5) in the stator (Fig. 1, 2) to form

the other of the two poles (Col. 3, lines 6-8).

As applied to claim 18, Sunaga et al teach several switches (Fig. 1 & 6, 41) mounted on the printed wiring board (Fig. 1, 40) for changing directions of the drive current applied to the exciting coil (Fig. 1, 7, col. 4, lines 26-29):

It would be obvious to one of ordinary skill in the art at the time the invention was made to realize that a switch that changes current drive directions, even for single pole switch, must have internal and external terminals with blocks, which connect to the magnet coil.

5. Claims 14, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al in view of Matsuoka et al and further view of Lewchenko et al (US 6,058,595).

As applied to claims 14, 15 and 19, Sunaga et al and Matsuoka et al teach a process of connecting wire with fuse, including the electrical connection of the magnetic coil to the terminals (Sunaga et al; Col. 4, lines 57-59), which reads on applicants' claimed invention.

Lewchenko et al teach a method of manufacturing an armature with the hooks or tang terminals where the magnet wires are connected (Col. 1, lines 38-40), which is old art.

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the three teachings by applying the terminal tangs, as taught by Lewchenko et al, as connecting point to the magnet wire of the coil and soldering or welding it in order to have good contact.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

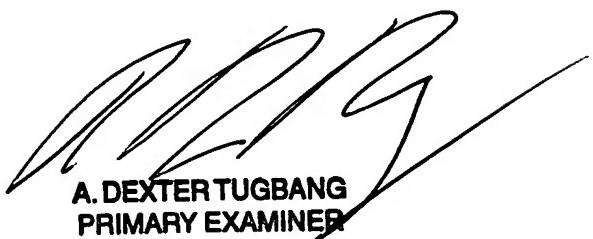
THIS ACTION IS A NON-FINAL OFFICE ACTION. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tim Phan
Examiner
Art Unit 3729

tp
October 23, 2005



A. DEXTER TUGBANG
PRIMARY EXAMINER